

## PUBLIC ABSTRACT

Applicant (primary) name: Nissho Iwai American Corporation  
Applicant's address: 1211 Ave. Americas, New York, NY 10036  
Street City State Zipcode

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Team Members (if any): Nissho Iwai Corp., Tokyo, Japan 135-8655  
(listing represents only participants  
at time of application, not necessarily  
final team membership) Name City State Zipcode

Kobe Steel, Ltd., Kobe, Japan 651-2271  
Name City State Zipcode  
Name City State Zipcode  
(Use continuation sheet if needed.)

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Proposal Title: UBC Coal Beneficiation Process for PRB Coals

Commercial Application: ☒ New Facilities ☒ Existing Facilities  
Other, Specify: \_\_\_\_\_

Technology Type: Beneficiation of Low Rank (Powder River Basin) Coal

Estimated total cost of project:  
(May not represent final negotiated costs.)

Total Estimated Cost: \$56,777,944  
Estimated DOE Share: \$28,388,972  
Estimated Private Share: \$28,388,972

## PUBLIC ABSTRACT (cont'd)

Anticipated Project Site(s): Black Thunder Mine, Wright, WY 82732  
Location (city, county, etc.) State Zipcode

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Location (city, county, etc.) State Zipcode

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Location (city, county, etc.) State Zipcode

Type of coal to be used: Powder River Basin sub-bituminous  
Primary Alternate (if any)

Size or scale of project: 1000  
Tons of coal/day input

And/or  
Megawatts, Barrels per day, etc.  
Other (if necessary)

Duration of proposed project: 54  
(From date of award) (Months)

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### PRIMARY CONTACT:

For additional information,  
interested parties should contact:

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Telephone Number

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Mr. Shuhei Inoue  
Name  
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City State Zipcode

## **PUBLIC ABSTRACT (cont'd)**

### **Brief description of project:**

The applicant proposes to construct a 1,000 ton per day coal processing demonstration facility at the Black Thunder Mine to upgrade low rank Wyoming sub-bituminous coal into a higher grade coal having higher heating value and lower moisture. The UBC (Upgraded Brown Coal) process is a non-chemical process that utilizes heat to remove moisture from the coal and then adds a small quantity of asphalt and light oil to produce a stable, higher-grade coal.

The higher rank coal produced is a stable fuel, unlike Wyoming sub-bituminous coal, that is not subject to self-heating (spontaneous combustion). Improving the stability and increasing the heat content of the Wyoming sub-bituminous coal results in a larger market for the fuel as it can be substituted for or blended with higher rank coals in use in existing facilities.

The UBC processing plant will be constructed on a site requiring approximately three acres. The site will require road access for supply of raw coal, asphalt and light oil used as feed stock for production of UBC and boiler fuel (probably No. 2 fuel oil) and road or railroad access for shipment of processed UBC. Additionally, the plant will require electricity and cooling water.

The proposed location on the Black Thunder Mine site is advantageous because it will not result in additional highway traffic for coal supply and product shipment from the demonstration plant to a shipping facility as coal production and shipping facilities already exist on the Black Thunder Mine property.

Heat for the UBC process is provided by steam produced on site by a conventional low pressure industrial boiler. The UBC process itself does not result in combustion or produce combustion products and consists entirely of mechanical processes to reduce the size of the coal particles; mix the coal; asphalt, and oil at elevated temperatures; heat the coal to evaporate moisture; separate and recover the excess oil/asphalt mixture; and briquette the UBC for improved storage and handling.

The only discharge to the environment from the UBC process is a wastewater stream that will be discharged to the normal drainage features after treatment in accordance with all environmental regulations. Atmospheric emissions will be produced by the combustion of fuel oil or gas in a 50,000 pound per hour industrial boiler used to produce steam for the process.

The plant will require approximately 25-30 permanent employees for operation, maintenance, and administrative functions. Additional contract services will be required to provide outage and heavy maintenance and to supply the plant with asphalt, light oil, boiler fuel, spare parts, and other supplies.